

ABSTRACT

A magnetic recording medium which comprises a substrate, an orientation control layer formed thereon, and a Co alloy magnetic layer formed thereon directly or indirectly with a Cr underlayer or Cr alloy underlayer interposed between them, said orientation control layer having the L10 crystal structure, L21 crystal structure, fcc crystal structure, or B2 (CsCl) crystal structure containing B. Owing to this construction, the magnetic recording medium has a high coercive force and a low noise level and is only slightly vulnerable to thermal fluctuation.

A magnetic storage device having a magnetic recording medium, a driver to turn said magnetic recording medium in the recording direction, a magnetic head consisting of a recording element and a read-back element, a means to move said magnetic head relative to said magnetic recording medium, and a record-read signal processing means to perform waveform processing on input signals to and output signals from said magnetic head, wherein said magnetic recording medium is the one mentioned above and the read-back element of said magnetic head is that of magnetoresistive effect type. This magnetic storage device has a recording density in excess of 3 Gbit/in<sup>2</sup>.